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NORTHUMBERLAND & DURHAM

MEDICAL SOCIETY.

SEPTEMBER 30, AND OCTOBER 14, 1880.

REPORT OF THE PROCEEDINGS

OF THE

Northumberland and Durham

MEDICAL SOCIETY.

SESSION 1880-81.

NEWCASTLE-UPON-TYNE:
PRINTED AT THE DAILY JOURNAL OFFICE, CLAYTON STREET.

—
1880.

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Professor Annandale, Edinburgh.

B. Bramwell, M.D., Edinburgh.

J. Spear, London Local Government
 Board.

The Medical Officers of Her Majesty's Forces in the District.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

THE Annual Meeting was held in the Library of the Newcastle-on-Tyne Infirmary, on 30th September, 1880—the President (Dr. Luke Armstrong) in the chair.

The following gentlemen were proposed for election as members:—

Jones, R. R., M.R.C.S., the Infirmary, Newcastle.

Strang, Walter, M.B., Edinburgh, the Dispensary, Newcastle.

Robertson, J. G., M.B., Edinburgh, the Dispensary, Gateshead.

Dale, J. R., M.B., Sunderland.

Crossby, J., M.R.C.S., Sunderland.

Dalziel, Wm., L.R.C.S., L.R.C.P., Edinburgh, South Shields.

The SECRETARY (Dr. Drummond) read the Annual Report, as follows:—

REPORT OF THE COMMITTEE.

Your Committee are pleased to be in the position to report satisfactorily of the session 1879-80.

The work done was in excess of the previous session, as will be seen by a comparison of the lists of papers, pathological specimens, &c. At the same time it must be noted that on more than one occasion the business on the agenda sheet did not occupy the whole of the time at the disposal of the Society, and the Committee would take this opportunity of urging upon the members the advantages accruing from a larger number of members taking an active part in the proceedings of the Society.

The memorial drawn up by the Sub-Committee appointed to enquire into the spread of infectious diseases through public elementary day schools was approved by the Society and forwarded to the President of the Local Government Board.

The conjoint excursion of the South Durham and Cleveland and Northumberland and Durham Medical Societies was—at the invitation of the latter—held at Warkworth, where the Castle was visited by the kind permission of his Grace the Duke of Northumberland.

Thirteen new members were elected during the year. Two have died, viz., Drs. Macrae and Clarke, nine have resigned or left the

district, and six have been struck off for non-payment of subscriptions in conformity with Rule 9. There are at present 150 members on the list.

Mr. John Spear, a member of the Committee, who was appointed an inspector under the Local Government Board, was elected an honorary member of the Society.

The income, including a balance of £16 15s. 2d., amounted to £87 15s. 2d., and the expenditure to £63 10s. 6d., leaving a balance in hand of £24 4s. 8d. Unpaid subscriptions amount to £20, including the arrears for two years, viz., £7.

LIST OF PAPERS.

Dr. BARRON.—Notes of a case of lithotomy.

Dr. BRAMWELL.—1. Large hydatid of the abdomen simulating an ovarian cyst. 2. The differential diagnosis of chronic Bright's disease.

Dr. DRUMMOND.—Splenic disease in infants.

Dr. GIBSON.—Facial diplegia.

Dr. MEARS.—A new system of descriptive anatomy.

Mr. MORGAN.—Notes of a case of dislocation and fracture of the spine.

Dr. MURPHY.—Puerperal eclampsia.

Dr. PAGE.—Notice of five successful cases of lateral lithotomy.

Dr. PHILIPSON.—Notes of a case of hyperpyrexia.

PATHOLOGICAL SPECIMENS.

Dr. ANDERSON.—Two vesical calculi.

Dr. ARMSTRONG (President).—Placenta with occluded umbilical cord.

Dr. ARNISON.—1. Cancer of lower end of femur. 2. Acute necrosis of tibia. 3. Ovarian cyst removed by operation. 4. Disorganized knee joint. 5. Leg amputated for cancerous ulcer.

Mr. BAUMGARTNER.—1. Aneurism of the thoracic aorta. 2. Calculus removed from the tonsil.

Mr. S. W. BROADBENT.—Ovarian tumour.

Dr. BYROM BRAMWELL.—Microscopical sections. (*a.*) Fatty liver stained with osmic acid; (*b.*) spinal cord, showing fatty degeneration of the anterior cornual cells; (*c.*) waxy liver stained with methyl aniline; (*d.*) waxy intestinal villi stained with methyl aniline.

Dr. DRUMMOND.—1. Hypertrophied heart. 2. Two aneurisms of the arch of the aorta. 3. Medullary sarcoma of liver, lung, and heart. 4. Scrofulous tumour of cerebellum. 5. Brain with enormously dilated lateral ventricles.

Dr. EMBLETON.—Aneurism of the thoracic aorta.

Dr. HEATH.—1. Bladder, kidneys, ureters, uterus, and vagina from a case of cystitis. 2. Six stones removed by lithotomy. 3. Tibia, showing the results of inflammation and suppuration in the medullary cavity. 4. Enlarged and diseased ovary removed by ovariectomy. 5. Ovarian tumour removed by operation. 6. Conical bullet removed from thigh. 7. Lower end of femur removed for osteomyelitis.

Dr. MACLACHLAN.—Twins which survived birth, having been in utero but seventeen weeks.

Dr. MEARS.—1. Case of double trachea and enlarged lung in a sheep. 2. Aneurism of the thoracic aorta, and loose body in the heart.

Mr. MORGAN.—Gluteal enchondroma.

Dr. MURPHY.—1. Fatty tumour of the vulva. 2. Cyst from the prepuce. 3. Specimens showing the results after recovery from ovariectomy of the extra and intra-peritoneal methods of securing the pedicle.

Dr. OLIVER.—Spleen, &c., from case of multiple sarcoma.

Dr. PAGE.—Apoplexy of spinal cord.

Dr. PHILIPSON.—1. Carcinomatous abdominal tumour. 2. Amyloid liver, spleen, and kidneys. 3. Scrofulous kidney.

LIST OF PATIENTS.

Dr. DRUMMOND.—1. Case of aortic valvular disease, with very loud murmur. 2. Case of hysterical paraplegia.

Dr. HUME.—1. Case in which both internal condyles had been chiselled off for genu-valgum. 2. Two cases of extroversion of the bladder.

Dr. HEATH.—Case operated upon for badly united fracture of the femur.

LIST OF NEW INVENTIONS, ETC.

Dr. BRAMWELL.—Rutherford's freezing microtome.

Dr. DRUMMOND.—Sciopticon improved by Professor Marreco.

Dr. NEWCOMBE.—A new ovum scoop.

Dr. PAGE.—A splint invented by a Newcastle student.

On the motion of Dr. FRAIN, seconded by Mr. HAWTHORN, the report was unanimously adopted.

Dr. ARNISON said he would like to see a change in the manner in which the officers of the Society were elected. He thought it would be well to nominate certain members for the different offices, and he would give notice that, on another occasion, he would bring forward a resolution to change the rules accordingly.

Dr. EASTWOOD agreed with Dr. Arnison, and said he would strongly support any resolution of the sort.

Dr. BARKUS said he thought a committee empowered to act in accordance with Dr. Arnison's idea, composed of the President, Vice-Presidents, and Committee, would meet the case.

On the motion of Dr. PHILIPSON, seconded by Dr. BARKUS, Mr. Dodd was re-elected paid Secretary for the ensuing year.

Drs. J. D. Dixon and Teesdale Wilson were appointed scrutineers of the ballot papers for the election of officers—the result being as follows :—*President* : J. W. Eastwood, M.D. *Vice-Presidents* : L. Armstrong, M.D., B. Barkus, M.D., J. Frain, M.D., G. H. Hume, M.D. *Secretary* : David Drummond, M.D. *Committee* : H. E. Armstrong, W. C. Arnison, M.D., T. W. Barron, M.D., S. W. Broadbent, J. S. Denham, M.D., G. B. Morgan, J. Murphy, M.D., F. Page, M.D., G. H. Philipson, M.D.

A vote of thanks was unanimously awarded to the gentlemen who acted as scrutineers.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

THE first monthly meeting was held in the Library of the Newcastle-upon-Tyne Infirmary, on Thursday, October 14th, 1880—Dr. Luke Armstrong, the retiring President, in the chair.

Dr. ARMSTRONG said: Gentlemen, before vacating the chair, in favour of Dr. Eastwood, I must be allowed to thank you most heartily for the innumerable acts of kindness which I have received at the hands of the members during the two years I have had the honour of presiding over you.

Dr. EASTWOOD then took the chair. He said he was extremely obliged to the members for placing him in the position in which he found himself that evening. Although he lived a long way from Newcastle, yet he had attended a large number of their meetings, and he believed he had read some ten papers before the Society. He must say that he had always derived benefit from attending the meetings of the Northumberland and Durham Medical Society, for, although he was now a specialist, yet he had served an apprenticeship in the various phases of medicine. In conclusion, he trusted that the Society, which had flourished under four years of surgical presidents, would not suffer at the hands of a physician as president. He begged again to return his sincere thanks to the Society for electing him.

Dr. BARKUS proposed a vote of thanks to Dr. Luke Armstrong for the able way in which he had conducted the business of the Society.

The vote of thanks was carried by acclamation.

Dr. LUKE ARMSTRONG thanked Dr. Barkus and the members for the vote of thanks and the way in which it had been received.

The following gentlemen were elected members of the society:—

R. R. Jones, M.R.C.S., the Infirmary, Newcastle.
Walter Strang, M.B., the Dispensary, Newcastle.
J. G. Robertson, M.B., the Dispensary, Gateshead.
J. Ridley Dale, M.B., Sunderland.
J. Crossby, M.R.C.S., Sunderland.
Wm. Dalziel, L.R.C.S., L.R.C.P., South Shields.

The following gentlemen were proposed for election:—

Charles Natrass, M.D., Sunderland.
W. A. Hewitson, M.R.C.S., the Dispensary, Gateshead.

PREVALENT DISEASES OF THE DISTRICT.

Mr. HENRY E. ARMSTRONG presented the following :—

Return of Admissions to, and Deaths at, the Newcastle Fever Hospital during the six months ended 30th September, 1880.

	ADMISSIONS.						DEATHS.				
	April.	May.	June.	July.	September.	Total.	April.	May.	June.	October.	Total.
Enteric Fever.....	2	...	1 ^a	1	4	8	1	...	1 ^a	1 ^e	3
Scarlet Fever.....	...	2	1	...	1	4	...	1 ^b	1	...	2
Pneumonia .....	...	1 ^c	...	...	...	1	...	1 ^c	...	...	1
Typhlitic Abscess...	...	...	...	...	1 ^d	1	...	...	...	...	...
Totals ..	2	3	2	1	6	14	1	2	2	1	5

^a Complicated with pneumonia. ^b With metastatic abscesses. ^c Died five days after admission. ^d Transferred to Infirmary. ^e With abdominal hæmorrhage on separation of sloughs ; duration not ascertained.

Mr. MORGAN remarked upon the memorial which had been forwarded by the Society during last session to the President of the Local Government Board respecting the spread of infectious diseases through public elementary day schools, and said, as he believed no steps had been taken by the Government so far to lessen the evil, he would move:—"That, with reference to the petition of this Society relative to the spread of infectious diseases through the public elementary schools, the President (Dr. Eastwood) and the Hon. Secretary (Dr. Drummond) be requested to communicate with the local members of Parliament, and, if possible, to interest one or more of them to remind the President of the Local Government Board of the matter ; and further, to take such action as they may think likely to obtain our petition."

Dr. LUKE ARMSTRONG seconded and Dr. DENHAM supported the resolution, which was carried unanimously.

PATHOLOGICAL SPECIMENS.

Dr. PHILIPSON presented a specimen of tumour of the cerebellum. The subject of the same was a man, aged 34, a bricklayer, who was admitted into the Newcastle-upon-Tyne Infirmary, under his care, March 25th, 1880. He admitted to having suffered from syphilis

and to having been a free liver. Eighteen months previous to his admission he had suffered from violent attacks of headache, giddiness, and vomiting. His sight was impaired, also his hearing on the left side. His face was drawn to the left side. At the time of his admission he had a vacant appearance, his face was drawn to the right side, he was unable to close the right eye; his tongue, when protruded, was pointed to the right. His gait was reeling, somewhat like that of a drunken man. On ophthalmoscopic examination, marked double optic neuritis was recognised. The headache was relieved with large doses of the bromide of potassium, but the vomiting was persistent, and his strength gradually declined. Two days before his death (which took place on August 27th, 1880) he was attacked with severe and persistent hiccough, together with convulsions of the limbs. At the autopsy, on removing the brain, it was found that the cerebellum, on the left side, was adherent to that portion of the skull corresponding to the left auditory foramen, which foramen was large and excavated, admitting the end of the finger; the bone was eroded. This abnormal adhesion was found to be due to a tumour in the region of the left lobe of the cerebellum. The tumour was about the size of an ordinary jargonelle pear, elliptical in shape, soft, consistent, resembling brain matter, although of a yellow colour on section. The pons was very much flattened on the left side. The rest of the brain was normal.

Dr. PHILIPSON remarked that the diagnosis of a cerebellar tumour, gummatous in nature, was made upon the following symptoms: The persistent headache, the continuous vomiting, the paralysis of certain of the cranial nerves, the reeling gait, and the syphilitic history.

Dr. PHILIPSON exhibited the thoracic organs from a case of empyema. The subject was a man, aged 27, a butler, who was admitted into the Newcastle Infirmary, under his care, October 30th, 1879. The individual, on his admission, stated that he had always been strong and healthy, and that two days before, whilst doing his work, he had been suddenly seized with a severe pain in his left side, beneath the heart, accompanied with great difficulty of breathing. At the time of his admission pleuritic friction sounds were readily heard, his temperature was 102.8° F., and his pulse was 120. A small amount of effusion supervened, which was rapidly absorbed, and about the middle of November he was regarded as almost well enough to return to his home, when urgent symptoms again occurred, his temperature, which had been normal, rose to 103° F., and his pulse became 130. Notwithstanding the administration of absorbent remedies, and the application of fly blisters, the effusion increased so rapidly that on January 3rd, 1880, it was deemed expedient for paracentesis thoracis to be performed with

the aspirator, when 56 ounces of serous fluid were withdrawn. After this the pleural cavity rapidly refilled, and as the temperature continued persistently at 102° F., and there were irregular shiverings, it was decided to have recourse to free incisions, and the introduction of a drainage tube. On February 1st, 1880, this operation was performed, under the antiseptic spray, by Dr. J. D. Dixon, the senior house surgeon, when five pints of sero-purulent fluid were evacuated. The side was daily dressed, under antiseptic precautions, but the pleural cavity was never injected. In May, Lister's silver tube was substituted for the flexible one. He progressed very favourably, and in July was able to go into the Infirmary garden. About the beginning of August he began to complain of pain in the centre of the chest, and renewed difficulty of breathing, and a tendency to faintness. It was then surmised that the pericardium had become implicated. He gradually became weaker, and died on September 20th.

At the autopsy, it was with the greatest difficulty that the sternum was raised, on account of the density of the adhesions. The right lung was found to be free, mottled, slate coloured. On section, the apex was found to contain a cavity, of the size of a large walnut, filled with caseous matter. The contents of the left chest were so strongly adherent to the ribs, the left lung being compressed upwards and backwards, that it was necessary to remove them, with the heart, in one entire mass. Upon examination, it was found that the pericardium was greatly thickened and distended, and contained half-a-pint of sero-purulent fluid. Both visceral and parietal layers were covered with recent lymph, resembling "calf's tongue" or "tripe." The costal and parietal pleuræ were greatly thickened and firmly adherent together, except at one point, corresponding to the external sinus, the place of incision, where there was a space of about the size of a small apple, containing pus. On incising the left lung a cavity, of about the size of a small walnut, was found in the apex. The lung was collapsed. The heart was small and shrivelled. The liver was firm in section, resembling nutmeg, and weighed six pounds.

Dr. PHILIPSON remarked that the chief interest of the specimens was their exemplification of a cure of empyema, the costal and parietal pleuræ having become firmly adherent. He also strongly advocated the importance of early performance of the operation of incision, and stated that he was in favour of one incision in preference to two; also, that in case the discharge indicated decomposition in the pleural cavity, he was against injection—the results of the antiseptic dressing, without injection, being more favourable than antiseptic dressing with injection.

Dr. PHILIPSON presented the uterus and other abdominal organs,

from a case of epithelioma of the cervix uteri. A woman, aged 31, was admitted into the Newcastle Infirmary, under his care, May 11th, 1880. She admitted to having lived a dissolute life and to having suffered from syphilis. Four months previous to her admission, she suffered from pains in her loins, shooting round her back and down her thighs. Her menstruation was disordered. This was followed by a discharge, "like dirty-coloured water," of a very foul odour. There was also nausea, loss of appetite, and loss of flesh. On vaginal examination a growth was found, of about the size of an apple, attached to the cervix, fungoid and soft, and easily broken down with the finger. On microscopical examination of the detritus, cancer cells were clearly recognised. On June 5th, Dr. J. D. Dixon, the senior house surgeon, with the ecraseur, removed the mass. The actual cautery was then applied, and ice was placed in the vagina. On July 4th, upon examination, it was found that the growth had returned. At this time chian turpentine was administered internally. On July 24th, it was noted that the discharge was not so copious nor so sanguineous, and also that it was not of such a foul odour. At the beginning of August, in consequence of the supply of chian turpentine having been exhausted, the tincture of the perchloride of iron was substituted, but apparently not with the same beneficial influence as the chian turpentine. The hæmorrhagic discharge again increased, and the pain also became greater. The pain was relieved by the hypodermic injection of morphia, and also with the morphia and belladonna suppository. Gradually her strength failed and she died on September 26th.

At the autopsy, the cavity of the peritoneum was found to contain a small quantity of sero-purulent fluid. The liver was firmly adherent to the abdominal walls by old bands. The pelvis was almost entirely filled with a hard white mass, resembling scirrhus, ascending to the pre-vertebral tissue, embracing the vessels and infiltrating the textures. The same mass extended into the pelvis, matting together the pelvic organs. Attached to and surrounding the cervix uteri was a mass resembling brain tissue, as large as an orange. The body of the uterus was small, but normal. The left ovary was gristly and larger than usual. The liver presented the appearance of lardaceous degeneration. The kidneys were both large and pale, the capsules being adherent, and on section were found to be infiltrated with small nodules, almost like purulent punctures, collected apparently into groups, rather than being dispersed.

Dr. PHILIPSON stated that the chief interest of the case was the limitation of the disease to the cervix uteri, the fundus of the organ being normal; further, that the cancerous growth had extended by infiltration to the surrounding textures, and that there were no

secondary formations. He further remarked that he was of opinion that the chian turpentine had appeared to have been of service, the hæmorrhagic discharge having lessened during the time of its administration.

Dr. HUME wished to ask Dr. Philipson whether anything was observed in the bladder, because the appearances of the kidneys were like those of the surgical kidney met with in chronic cystitis.

Dr. PHILIPSON answered that the interior of the bladder presented raspberry granulations, the appearances of chronic congestion. He also stated that at the autopsy Dr. Drummond and he had carefully considered whether the appearances of the kidneys were those of metastatic, secondary abscesses, but that in the absence of any appearances of wedge shape of the nodules, they had come to the negative conclusion.

Mr. GOYDER said: The diagrams I have here show the optic discs to be in a state of neuritis. They were drawn at the bedside from Dr. Philipson's cast of cerebellar disease, and were obtained by means of the indirect method of examination. The left disc is seen to be gorged, its margin obliterated, and its veins dilated and tortuous. The arteries are not seen. There are a few minute hæmorrhages. The right disc has entered the atrophic stage; its outline is irregular, but traceable; the vessels are small and attenuated, and the surface of the disc is white.

The PRESIDENT remarked that Dr. Philipson's case of cerebellar tumour confirmed his own experience, viz., that when syphilis attacked the brain the cerebellum was often the part to suffer.

Dr. LUKE ARMSTRONG said he was much interested in Dr. Philipson's case of "cured empyema," as he thought it uncommon to have the opportunity of examining the condition of affairs in these cases; for according to his experience, when the case was operated upon early the patient generally recovered. He recounted a case of his own bearing out his remarks.

Dr. GIBSON remarked that the case of carcinoma uteri just brought before the meeting was one which followed the usual order of progression in such cases. The disease was first located in the cervix uteri, and by the wild luxuriance of its epithelial growth (every form of the disease is probably epithelial) developed a tumour, which was a cancrroid or epithelial cancer. In the earliest life of the cancrroid, the tumour might have been successfully removed. The operation, unfortunately, came too late. The wedges of diseased epithelial cells had struck too deeply into the uterine tissues—they were far in advance of the wire of the ecraseur. There was no bleeding in the operation, because blood vessels do not circulate in the midst of the cancrroid cells, and these had usurped almost

entirely the place of the normal tissues. Gradually the disease advanced towards the body and fundus of the organ, but before these were destroyed the patient, as usually happens, was worn out and died. The cancrioid developed into a true carcinoma. The converse never holds: true carcinoma of the cervix uteri never develops into a cancrioid. The disease in this case was confined to the uterus, but probably if life had been prolonged deposits of cancerous matter would have taken place elsewhere—in distant parts, by the agency of blood vessels or absorbents, and in the wall of the vagina by direct continuity. In the latter case, the walls of the rectum and of the urinary bladder would probably have suffered, and in the course of events fistulæ might have formed, and the vagina would have become a cloaca common to the rectum, the urinary bladder, and the uterus.

Dr. ARNISON described a case in which he used chian turpentine, and on the whole without success. Had Dr. Philipson thought of removal of the entire uterus? The operation was now looked upon as legitimate.

Dr. PHILIPSON replied that the propriety of performing such an operation had been discussed, but the patient was thought to be too weak to bear such a severe shock.

Dr. ARNISON showed—(1). An ordenoid tumour, size of a child's head, removed from the neck of a woman of 55. (2). A uterine fibroid, size of a large walnut, removed by the ecraseur from the back part of the cervix uteri. (3). An ovarian tumour removed from a woman of 55. There were not many parietal adhesions, but the uterus and other ovary were firmly fixed to the tumour, a condition suspected before operation from the immobility of the uterus. All the cases had recovered.

Dr. ARNISON stated that the ovarian case made the sixth case of ovariectomy in the Newcastle Infirmary without a death, an operation which a very few years ago was said to be unjustifiable in a general hospital.

Dr. ARMSTRONG showed the cœcum and part of the ascending colon from a case of typhlitis, with perityphlitic abscess, and said: This specimen, which I shall ask Dr. Drummond to describe, was taken from the body of a young man who was admitted into the Infirmary, from the Fever Hospital, about three weeks before his death. He had been sent to the Fever House as a case of typhoid, and, indeed, the early history (which is rather vague) is somewhat suggestive of enteric fever. For six or eight weeks before his admission into the Infirmary, the patient had complained of febrile symptoms, with pain in the right iliac and lumbar regions, accompanied by occasional attacks of diarrhœa. When he came under

my care he was considerably emaciated, presenting the facies of advanced phthisis. He could only lie on the left side, the right lumbar region being occupied by two soft swellings; the anterior, and therefore upper one—as the lad lay—was filled with gas. Pressure upon it caused a loud gurgling sound, like squeezing an india rubber ball containing air and liquid. In the lower swelling, nearer the spine, the existence of fluid was made out. Pus was passed both from the bladder and rectum. On consultation with Dr. Drummond, it was thought desirable to open the abscess—which it undoubtedly was; consequently, an opening was made, and a drainage tube put in; thick dark foetid matter escaped, with foul gas. However, the patient sunk rapidly, and died a few days subsequently.

Dr. DRUMMOND said as Dr. Armstrong had called upon him to show the specimen taken from the body of the patient, whose case he (Dr. Armstrong) had related, he would briefly describe the result of the *post mortem*, as regards the intestinal lesion. The specimen consisted of the cœcum and the lower part of the colon, which were found firmly attached to the neighbouring tissues, and bounded on the outer side by an abscess, which contained dark, horrid-smelling pus, and gas, and which communicated with the external swelling, described by Dr. Armstrong. The cœcum was found to be perforated—the opening admitted a No. 12 catheter—and very much altered in appearance, the result, apparently, of chronic ulceration and the formation of fibrous bands, which at places stretched across the bowel, dividing the tube into two canals. For four or five inches up the large intestine, the internal coats were much thickened and altered; bands stretching here and there, causing eminences and depressions, giving the whole a cribriform appearance, like the columnæ carneæ of the heart. The vermiform appendix was apparently absent, and from the appearances it was probable that the disease had commenced at that part of the intestine. Perhaps a foreign body had become engaged in the opening of the appendix. The kidneys were healthy, and as the right ureter passed through part of the abscess, it was probable that the pus got into the urine in that way.

Dr. SERVICE said: Mr. President and Gentlemen, in connection with Dr. Armstrong's very interesting case, I should like to be allowed to call your attention for a moment to another which I saw about three years ago. A girl of eleven, at Monkton, near Jarrow, during the prevalence of enteric fever in the district, complained of severe pain in the right iliac region; there was slight fulness and slight percussion dulness, but both were very trifling and not constant. The pain was intermittent in character, and that seemingly irrespective of any treatment. The treatment

that was tried—opiates and blisters—I may state shortly was unavailing, and the girl died suddenly on the thirteenth day after vomiting a quantity of black-looking matter. The temperature throughout the case was never over 100° Fah., and it never had the typical typhoid character. The friends being rather sensible people in their way, asked us to make a *post mortem*, and Dr. Whamond of Jarrow, whose patient the girl had been, did so. The pelvis was filled with thin pus, evidently arising from the right iliac fossa, and on being sponged out was seen to have sprung from an ashy grey membrane attached to the cœcum. Part of this pyogenic tissue adhered to the appendix, which was perforated, and in cleaning out the pus, a little body exactly like an orange pip was found. It was soft, and cut readily with the knife. It was insoluble in water, Hcl. or H N O_3 , but slightly soluble in nitro-hydrochloric acid with heat. The solution gave no precipitate with ammoniac oxalate, showing that it was not lime, nor with hydro-disodic phosphate, showing that it was not a phosphate, nor did it effervesce with an acid, proving it not to be a carbonate. Microscopically, a section of the substance showed distinct traces of fibro-cellular structure, mingled with a soft *debris*. Finally, upon inquiry it was found that the girl's father had brought home some oranges about a week previous to her illness, and of these it was ascertained that she had eaten one six days before her illness began and nineteen days before her death. Towards the end of last year a writer in the *Lancet*, in detailing a case of death from *calculus* of the vermiform appendix, took occasion to throw discredit on the stories, as he called them, of foreign bodies in this situation causing death, and quoting the high authorities of Sir William Jenner and Dr. Wilks in support of his assertions. He wished to make out that owing to the presence of glandular structures in the appendix they were as much liable to inflammatory conditions as the other glands of the intestine, and that, on the roughened surface, fæcal matters, lime, salts, &c., were subsequently deposited, forming *calculi*, and leading to erroneous conclusions about fruit stones, &c. I think, however, gentlemen, that foreign bodies often do get caught in this little trap in the bowels, at least, such you will agree with me was the case in the instance I have now had the pleasure of bringing before your notice.

Dr. DRUMMOND showed a portion of the left seventh rib, which Mr. Goyder, the senior house surgeon to the Newcastle Infirmary, had excised in a patient of his (Dr. Drummond's) suffering from empyema. The collection of pus was of old standing, viz., over twelve months, and had been partially evacuated once by aspirating, 104 ounces being drawn off; however, as it was found impossible to completely empty the pleural cavity, it was thought best to

resort to the operation of excision of a portion of one of the lower ribs, with a view to procuring more thorough drainage, and a rapid patient was doing well, and he hoped to exhibit him as a case falling in of the chest wall, so as to obliterate the cavity. The of cured empyema at a future meeting.

Mr. GOYDER said: Chloroform having been administered, and the patient placed on his right side, I made an incision, under antiseptic precautions, three inches long, over the middle line of the left seventh rib between the axillary lines. Having come down to the rib, the periosteum was cut through in a line corresponding with skin-wound, the edges of periosteum turned back with a raspator, and the intercostal vessels inclosed in the periosteum, depressed at the lower border of the rib.

The periosteum was next separated from the rib at its posterior surface, and a copper spatula inserted between the rib on the outside and the periosteum behind. The rib was divided on the spatula by a Hey's saw, and $1\frac{1}{2}$ inches removed. There was no bleeding, and the pleura unopened bulged into the space between the cut ends of the rib. I then with a scalpel opened the pleural cavity and gave exit to a large quantity of pus. The muscles were divided, where they overlapped the wound, to allow of their retraction. A silver drainage tube was inserted (Lister's) and an antiseptic dressing applied.

Dr. DRUMMOND further showed the five lumbar vertebræ, and portion of the left ilium affected with carcinomatous disease, taken from the body of a chemical labourer, aged 48, who died in the Infirmary on the 11th of September. He was admitted as a patient on the 3rd of June, complaining of pain across the small of the back and down the left sciatic nerve, of between two and three months duration. The case was looked upon at first as one of lumbago and sciatica, but as the pain increased in severity, in spite of the application of the remedies which usually relieve such rheumatoid pains, whilst the patient emaciated and developed a cachexia, the diagnosis was changed to malignant disease of the lumbar vertebræ. This was confirmed by the discovery that the left ilium could be made to move slightly apart from the rest of the pelvis. At the same time, crepitus was elicited in the left sacro-iliac synchondrosis. There were no spinal cord symptoms, and no external swellings or enlarged glands made their appearance. At the *post mortem* examination, it was found that the disease confined itself to the parts already named. No secondary deposit could be found. The bodies of the lumbar vertebræ are softened, though not enlarged, being riddled with small cavities, which are filled with soft matter like spleen pulp. The bones could easily be cut with a strong knife. The inter-vertebral cartilages are much

thickened, and very spongy. The left ilium was a mere shell, containing the same spleen-pulp-like matter. The sacrum was but slightly affected, except at its iliac surface, the synchondrosis being loose. The disease was taken to be an example of a rare form of cancer of the vertebræ, simulating in a great measure osteomalacia, which, as Rindfleisch has pointed out, it occasionally does ; indeed, cancer of the vertebræ is rare at any time, but that form is unusually so which merely attacks, and, as it were, absorbs the bony structures with the deposit of spleen-like matter, and without any enlargement of the structures attacked or the formation of distinct "new growth" tumours. The spinal canal was unaltered, the cord being free from pressure or disease.

Dr. BRAMWELL asked if there was any disease found in other bones, as the condition was, in his experience, an exceedingly unusual one.

Dr. DRUMMOND said the rest of the skeleton was healthy.

EXHIBITION OF PATIENTS.

Dr. ADAMSON exhibited a man who had suffered from empyema on the right side, but was now completely recovered, and said : This patient, who is a policeman, came under my care with an open discharging empyema ; the pus was stinking, and the patient much run down. The fistula was enlarged by a good free incision, and the cavity injected with carbolic solution, the result being that soon the pus became sweet and without any offensive smell, and the patient picked up rapidly. Dr. Heath saw the case with me. The man is now quite well, and is able to perform his duties as a policeman.

Dr. DRUMMOND exhibited a patient with a thoracic aneurism, and said : My object in bringing this case before the Society is to call the attention of the members to what I think may be described as a new physical sign—a sign which I have found present in all the cases of aneurism of the thoracic aorta which have come under my observation since my attention has been directed to the point, viz., three. It is shortly as follows :—When a patient, the subject of thoracic aneurism, is made to inspire deeply and then close the mouth, expiring slowly through the nose, a puffing sound is heard on auscultating the trachea above the sternum (best performed by the binaural stethoscope) synchronous with the systole of the heart. This sound at once ceases if, whilst the mouth is closed, the nostrils also be stopped, showing that it is an expiration sound caused probably by the sudden systolic expansion of the sac, expelling air from the thoracic cavity. I

have found it absent in cases of aortic valvular disease with great hypertrophy of the heart. Its exact significance I have not yet fully worked out, but I hope soon, in a further communication on the subject, to show that it is a sign of considerable importance in the diagnosis of aneurism.

Dr. BYROM BRAMWELL having examined the patient, expressed the interest with which he had listened to Dr. Drummond's remarks, and confirmed Dr. Drummond's statement as to the character of the breathing in this case. Previous observers, he said, had directed attention to the fact that in cases of dilatation of the aortic arch (aneurismal and simple) pulsation was communicated to the trachea, and could be felt when the fingers were placed on the larynx, the parts being stretched, the head thrown back; but so far as he was aware the peculiar character of the expiratory murmur which Dr. Drummond had demonstrated in this case had not been previously described. He (Dr. Bramwell) was of opinion that any considerable dilatation of the aorta would probably give rise to this condition, and that it would not be found to be pathognomonic of an aneurism, properly so called. It was, however, likely to be chiefly valuable to some of those obscure cases of intrathoracic pressure, in which the diagnosis lay between aneurism and solid growth. A new physical sign was very seldom discovered in the present day. He hoped that future experience would confirm Dr. Drummond's observation, and that the Society would have the satisfaction of numbering amongst its members one of the few modern discoverers of new physical signs.

THE VESICAL REFLEX.

By BYROM BRAMWELL, M.D.

MR. PRESIDENT AND GENTLEMEN,

In cases of paralysis, in addition to the superficial and deep (voluntary) reflexes, the condition of the involuntary or organic reflexes must be examined.

The most important organic reflexes are:—the vesical, rectal, and sexual, which have their centres in the spinal cord; the œso-phageal having its centre in the medulla oblongata; and the eye (pupil) reflex, the centre for which is situated quite at the top of the pons in corpora quadrigemina. It is to the condition of the vesical reflex that I beg to be allowed to direct your attention this evening.

The vesical reflex.—Micturition is a complex process, the exact mechanism of which is not yet definitely settled. The nervous and muscular arrangements concerned are as follows:—

1. The neck of the bladder is surrounded by circular muscular fibres—sphincter vesicæ muscle—(S M) see figs. 1, 2, and 3, which are supposed to be in a constant state of tonic contraction,* by virtue of which (and to a less degree of the resistance of the elastic fibres of the urethra) the exit of urine is prevented. The contraction of the sphincter is probably due to a tonic centre (C S M) which is situated in the lower part of the spinal cord (corresponding in position to the 2, 3, and 4 sacral nerves). This tonic centre is constantly acting on (S M) the sphincter muscle through (*sm*) as shown in fig. 1; this tonic centre can be inhibited, *i.e.* the sphincter can be relaxed, by a voluntary effort, an impulse from (B) the brain, to (C S M) along (*b*), see fig. 2. The course of the inhibitory fibres through the cord is undetermined, but is probably in the lateral columns.

Dr. Gowers supposes that the centre for the sphincter can be inhibited, *i.e.*, the muscle relaxed, reflexly by sensory stimuli from the mucous membrane of the bladder itself, *i.e.* by an impulse from (*mm*) to (C S M) along (S) and (*s''*), see fig. 2. Such a supposition would undoubtedly well explain some points of the process, and is adopted in the following description:

2. The expulsion of urine is accomplished by:

(*a.*) The contraction of the muscular fibres in the wall of the bladder, the detrusor urinæ (D M) aided by,

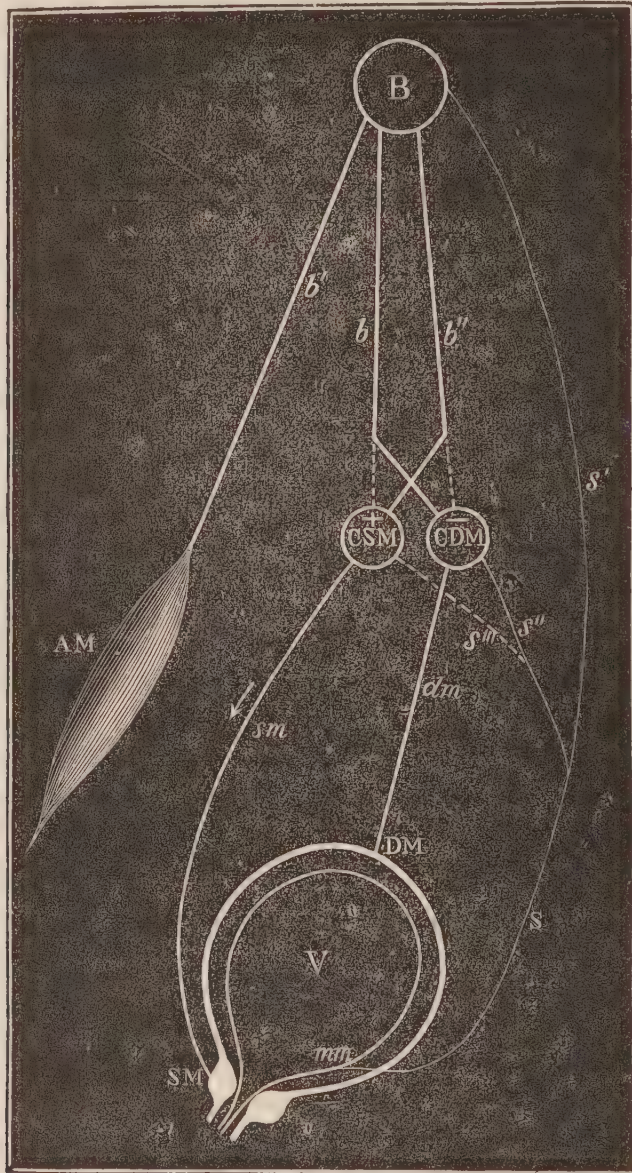
(*b.*) The contraction of the (voluntary) abdominal muscles (A M).

* Possibly this tonic contraction of the sphincter may be due to some local mechanism.

According to Goltz, the contraction of the detrusor is a purely reflex act, the centre for which (C.D.M.) is situated in the lower part of the spinal cord (corresponding to the 3rd, 4th, and 5th sacral nerves).

FIG. 1.

Dr. Byrom Bramwell's graphic representation of the parts concerned in the mechanism of micturition, while at rest.



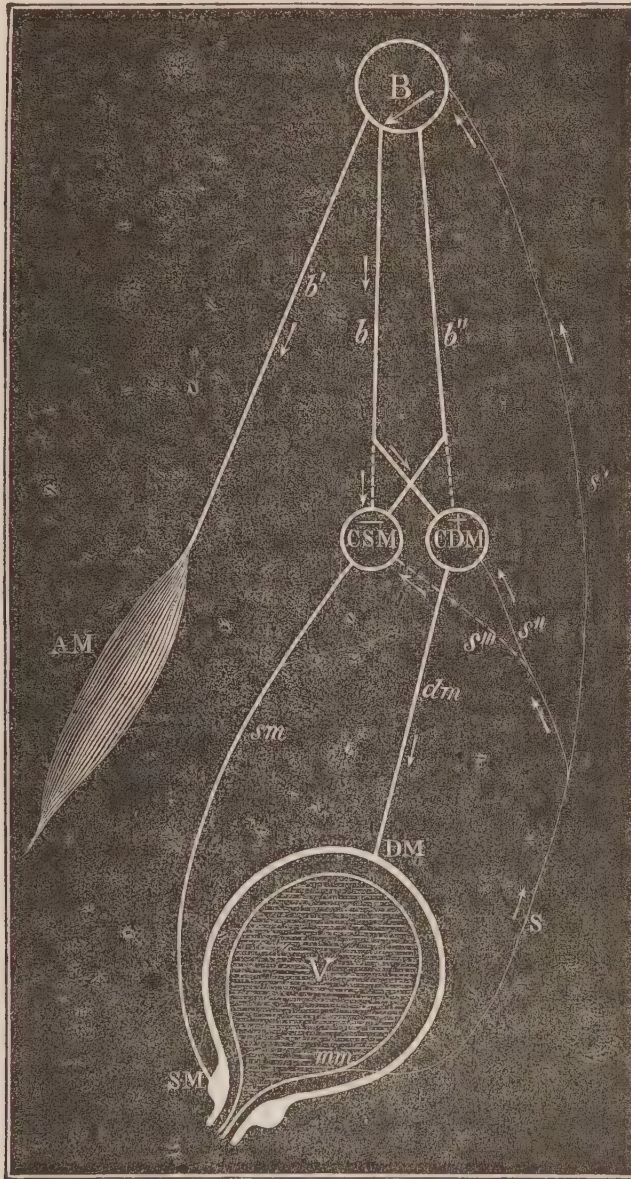
The sphincter muscle is in a state of contraction, the result of nerve force continually sent to it from its tonic centre (C S M) in the spinal cord through *sm* as indicated by the arrow.

V = the bladder, which is represented as empty. S M, sphincter muscle. D M, detrusor muscle. A M, abdominal muscles. *mm*, mucous membrane of bladder. B, the brain. C D M, spinal centre for detrusor muscle. C S M, spinal centre for sphincter muscle. S, sensory fibres proceeding from the

This reflex centre is set into action by stimulation of the sensory fibres in the mucous membrane of the bladder, the stimulus passing from (*mm*) to (C D M) along (*S*) and (*s''*).

FIG. 2.

Dr. Byrom Bramwell's graphic representation of the parts concerned in micturition, while in action.



mucous membrane of bladder up to the spinal cord and brain. *dm*, motor nerve from spinal centre for detrusor muscle. *sm*, motor nerve from spinal centre for sphincter muscle. *b*, nerve filaments proceeding from brain to spinal centres of detrusor and sphincter muscles. An impulse from the brain through *b* inhibits the sphincter centre (dotted line) and excites the detrusor centre, as in fig. 2. *b''*, nerve filaments proceeding from the brain to the spinal centres of the sphincter and detrusor muscles. An impulse along *b''* strengthens the sphincter and inhibits the detrusor centre.

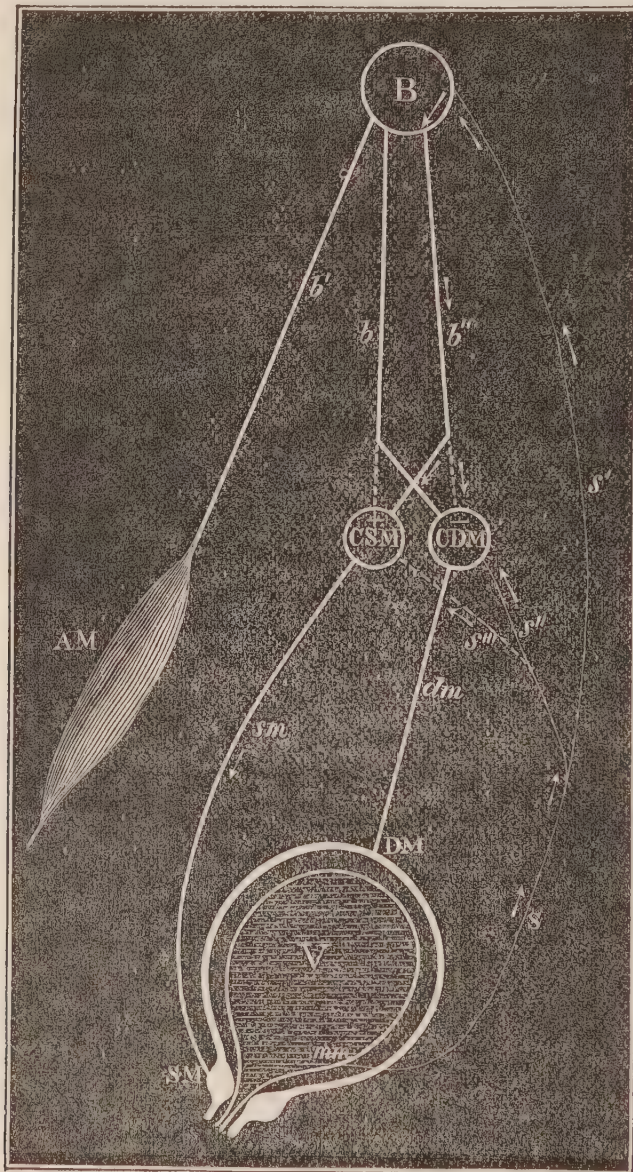
Many authorities believe that the reflex process can be strengthened, and some say that it can be set into motion by a voluntary effort, by an impulse from (B) to (C D M) along b .

Like many other reflex acts, it certainly can be inhibited by an effort of the will; by an impulse from (B) to (C D M) inhibiting that centre, *i.e.*, preventing contraction of the detrusor, and by an impulse from (B) to (C S M) strengthening that centre, *i.e.*, strengthening the tonic contraction of the sphincter. (See fig. 3.)

It will be seen from this description that the centres (C D M) and

FIG. 3.

Dr. Byrom Bramwell's graphic representation of the mechanism of micturition, showing the process by which the act can be inhibited by a voluntary effort.



(C S M) are antagonistic, and that an impulse from the brain, which inhibits (C S M), of necessity strengthens (C D M), and *vice versa*. The course of the inhibitory fibres is probably through the lateral columns of the cord.

The mechanism of micturition then, so far as it is at present known, would seem to be as follows, see fig. 2:—

1. When the bladder becomes sufficiently full of water, the sensory nerve filaments in the mucous membrane are stimulated, and an impression is conveyed along the sensory nerve trunk S to :

(a.) The reflex centres in the spinal cord (C D M and C S M).

(b.) The sensorium (B).

2. As a result of the sensory impression conveyed to the brain the desire to urinate is experienced.

3. As a result of the reflex stimulation of the spinal centres, C D M is thrown into action, and the detrusor contracts; C S M is inhibited, and the sphincter relaxes, as shown in fig. 2.

If the circumstances are favourable, an impulse is sent from the brain (see fig. 2) to :

(a.) The tonic centre for the sphincter (C S M) along the path b, inhibiting it and causing relaxation of the sphincter muscle.

(b.) The centre for the detrusor (C D M.), along the path b', strengthening the action excited by the reflex stimulation from the bladder (conveyed along s'') ;

(c.) The abdominal muscles (A M) along b' causing their active contraction.

In health all these processes are simultaneously accomplished, and urination is the result.

If the circumstances are not convenient for urination the process can be prevented (see fig. 3) by :

(a.) Voluntary inhibition of the centre for the detrusor, (C D M) through b".

(b.) The (voluntary) contraction of the urethral muscles at the neck of the bladder; and possibly, too, the strengthening of the tonic centre for the sphincter (C S M) through b".

Alterations of the process of urination which occur in disease—Disorders of urination are very frequent in disease, and result from derangement of the mechanism just described; and since the chief part of that mechanism is situated in the lower (lumbar) portion of the spinal cord, it follows that the greatest disturbance in urination will occur in diseases of the spinal cord, and

especially when the lumbar portion of the cord is the seat of the lesion.

The following are the effects of the lesions at different parts of the nervous mechanism :

1. *Excessive stimulation of the centripetal nerves.*—If the sensory nerve filaments in the mucous membrane of the bladder are abnormally sensitive (as in cases of cystitis), a small quantity of urine will suffice to set up the reflex process. Increased frequency of micturition and spasms result. A foreign body (as a stone) in contact with a normal mucous membrane acts in the same manner. As a matter of fact, however, cystitis is nearly always present in such cases. Irritation in the surrounding parts (as in the rectum) may also set up the reflex. The nocturnal incontinence of children is frequently induced in this manner.

2. *Destruction of the sensory (centripetal) nerve filaments (S)* will of course arrest the reflex. The mechanism can still be put into action by voluntary impulse conveyed along *b* and *b'*.

This condition may result from the pressure of a tumour or inflammatory products (as in meningitis) on the nerve trunk or posterior nerve roots. In such cases the motor (centrifugal) nerves (*dm*) and (*sm*) would probably be affected too. Destruction of *s* is of more theoretical than practical importance.

3. *Destruction of the reflex centres (C D M and C S M) in the spinal cord.*—Destruction of the reflex centres occurs in some cases of myelitis, hæmorrhage into the cord, traumatic injuries, &c. There is generally paraplegia and paralysis of the rectum (the centre for the rectum being close to that for the bladder).

Sudden injuries (traumatic, and inflammatory, &c.) of the spinal cord above the lumbar region are frequently attended with arrested functions of the urinary centres (retention, sometimes incontinence). In such cases, when the effects of shock pass off, the urinary reflex is re-established (provided, of course, the lumbar cord remains unaffected). In many of these cases the conducting paths to and from the brain are interrupted with the results described below.

Destruction of the detrusor centre (C D M) produces paralysis of the detrusor muscle ; urine collects in the bladder (retention) ; after a time the sphincter gives way, and incontinence occurs.

The detrusor centre is often impaired but not destroyed. The paralysis in such cases is incomplete, only amounting to loss of expulsive force. In these cases the contraction of the abdominal muscles takes a larger share in the process than in health. The patient cannot empty the bladder when lying on his back, but has

to stand up, *i.e.*, to place the parts in the best hydrostatic condition for the exit of urine.

Destruction of the detrusor centre sometimes occurs alone, but in the great majority of cases it is associated with destruction of the sphincter centre.

Destruction of the sphincter centre (C S M) produces paralysis of the sphincter, the urine dribbling away (incontinence); if a small quantity collects in the bladder it is forced away by any sudden movement on the part of the patient—laughing, coughing, &c.

Paralysis of the sphincter is very rare *per se*. It is nearly always associated with a similar affection of the detrusor muscle and of the rectum.

4. *Destruction of the centrifugal (motor) nerves*.—Destruction of the motor nerves (*dm*) to the detrusor muscle (D M) causes, of course, paralysis of that muscle. The conditions which may give rise to it, arrested function in the nerve trunks, have been already described, see above (Destruction of the sensory nerve filaments.) Paralysis of the sphincter may occur from a similar cause, *i.e.*, lesion of its motor nerve (*sm*).

5. *Interruption and destruction of the conducting paths to and from the brain above the reflex centre, i.e.*, lumbar region of the cord, are of frequent occurrence.

If the lesion is a sudden one the shock to the urinary centres may cause temporary arrest of function.

In chronic cases the effects of the lesion vary with its position and extent. When the sensory conductors (S or S') are alone interrupted the desire to urinate is not perceived, but the reflex can be put into action by voluntary effort through *b* and *b'*; the reflex arc being uninjured urination proceeds when the bladder becomes sufficiently distended. It must be remembered, therefore, that the discharge of urine and fæces in cases of coma does not necessarily imply any paralysis of the bladder or rectum.

When the motor and inhibitory fibres are alone interfered with (lesion of *b b' b''*), the desire to urinate is perceived, and the act takes place quite independently of volition. It can neither be assisted nor prevented.

In many cases the lesion involves both the sensory and motor conductors.

INCONTINENCE AND RETENTION.

Incontinence and retention of urine are the symptoms which result from the lesions I have just described.

Incontinence of urine.—The escape of urine, either against the will or without the knowledge of the patient, and without his being able to control its flow—may be due to :

1. *Mechanical causes*—Such as a vesico vaginal fistula.

2. *Spasmodic contraction of the detrusor muscle.* (Spasmodic incontinence.) This is one of the causes of the nocturnal incontinence of children. The spasm may be caused by local reflex irritation, as worms in the intestine ; or it may be part and parcel of a general spasmodic condition (epilepsy). Occasional nocturnal incontinence should always suggest the possibility of epileptic fits. In spasmodic incontinence the escape of urine is only *occasional*, and between times the patient has full control over his bladder.

3. *Atony or paralysis of the sphincter vesicæ.*—This is probably another cause of nocturnal incontinence in children ; the incontinence rarely occurs during the day ; the atony becomes aggravated during sleep ; these patients are frequently delicate, but there are no associated nerve symptoms such as are present in most cases of paralytic incontinence : the urine is normal : the condition is generally easily amenable to treatment. Paralysis of the sphincter may result from local injury, as after the rapid dilatation of the female urethra and inflammatory affections of the muscle. It frequently follows retention, the sphincter after a time yields to the pressure of the retained urine, and incontinence result. In these cases the important diagnostic point to be determined is, What was the cause of the retention ; whether due to a local (generally temporary) or central (often permanent) condition ?

In all cases of incontinence of urine, especially where there is no associated condition of the rectum and limbs, a careful examination of the bladder should be made (catheter, &c.).

Paralysis of the sphincter may also result from lesions of its spinal centre (C S M), or (though rarely) of its centrifugal (motor) nerve (*sm*). In such cases it is usually associated with paralysis of the detrusor, paralysis of the rectum, anæsthesia in the neighbourhood of the rectum, and paraplegia. Occasionally there is no paraplegia, and still more rarely there is no affection of the rectum.

In the paralytic variety the incontinence is *constant*, the patient never has command over his bladder, the urine dribbles away, and is liable to be forced away by any sudden effort, such as coughing. The urine is generally ammoniacal.

4. Where the urinary reflex arc is uninjured, but where there is a lesion in the cord, above the lumbar region, or in the brain which interrupts the conductors or destroys the cerebral centres the urine is discharged at regular intervals, and in a good stream, but the

desire to urinate is not perceived, and the act cannot be restrained. This form of incontinence may, for the sake of convenience, be termed *cerebral*.

The differential diagnosis of a case of incontinence.—The parts to be determined are :

1. Is the continence mechanical, spasmodic, paralytic, or cerebral?
2. If spasmodic, is it due to local or general causes?
3. If paralytic, is the paralysis due to local or central conditions?
4. What is the exact seat and pathological character of the lesion?

The following are the chief points to which attention is to be directed :

1. The local condition of the urethra, bladder, rectum, &c. (Careful local examination.)
2. The exact character of the incontinence. (See above.)
3. The history and mode of commencement of the attack.
4. The associated nerve symptoms, especially the condition of the other parts supplied by the lumbar and sacral nerves.

When the incontinence is due to central causes, an anatomical and pathological diagnosis must be made, as described under the differential diagnosis of spinal and cerebral affections.

The differential diagnosis of spasmodic and paralytic incontinence is shown in the table.

Tabular Statement shewing the Differential Diagnosis of Spasmodic and Paralytic Incontinence.

	Occurrence.	Effect of Effort, Coughing, &c.	Age.	Associated Nerve Symptoms.	Effect of Treatment.	Condition of Urine.
SPASMODIC.	Occasional and Intermittent.	Nil.	Generally young	None, unless hysteria.	Good.	Clear, acid, normal.
PARALYTIC	Constant.	Forces away Urine.	Any age, but generally old.	If central generally, similar affection of rectum and paraplegia.	Very often unfavourable.	Ammoniacal, pus, &c., when paralysis results from spinal disease.

Retention.—The accumulation of urine in the bladder, as the result of inability on the part of the patient to expel it—may be due to :

1. *Mechanical causes*, such as stricture, enlarged prostate, tumours in the pelvis, traumatic injury, &c.

2. *Spasmodic contraction of the sphincter vesicæ.*—This may result from local (direct) irritation, after ligature for piles, &c., or it may be due to central nervous causes, as in some cases of hysteria.

3. *Paralysis of the detrusor muscle.*—Paralysis of the detrusor sometimes follows excessive distension of the bladder, where the urine has been voluntarily long retained. Occasionally in such cases, though I suspect seldom if ever in perfectly healthy individuals, the paralysis becomes permanent.

Temporary paralysis of the detrusor also occurs in many cases of acute disease of the spinal cord and brain, in which severe shock to the nervous system temporarily arrests the function of the detrusor centre (C D M).

Paralysis of the detrusor also results from lesions of the detrusor centre (C D M), and from lesions of the centripetal (motor) nerves passing from that centre, (as in traumatic injuries, myelitis, hemorrhage, or traumatic injuries of the lumbar cord, pressure on the nerve roots or nerve trunks. In these cases the paralysis is often permanent, and is generally associated, as has been mentioned above, with paralysis of other parts supplied by lumbar and sacral nerves. (Rectum, lower limbs.)

Feeble action of the detrusor muscle is seen in some cases of general spinal weakness, such as occurs in persons debilitated by prolonged sexual excess. In these cases the action of the detrusor is partly compensated by excessive action of the abdominal muscles.

4. Theoretically, retention will occur where the cerebral influence through *b''* (which inhibits C D M and strengthens C S M) is in excess. Possibly this is the cause of the retention which accompanies some forms of cerebral disease (hysteria).

The differential diagnosis of a case of retention.—The steps in the diagnosis are :

1. Is the retention mechanical, spasmodic, or paralytic ?
2. If spasmodic, is the spasm due to local or general causes ?
3. If paralytic, what is the seat and pathological character of the lesion ?

The points to be relied upon in making a diagnosis are much the same as those in cases of incontinence, viz. :—

1. The local condition of the urethra bladder, rectum, and pelvic organs. (Catheter, rectal, and pelvic examination.)
2. The associated nerve symptoms, especially the condition of the other parts supplied by lumbar and sacral nerves.
3. The history and mode of commencement of the attack.
4. The general condition, age, &c., of the patient.

When the retention is due to spinal or cerebral causes an anatomical and pathological diagnosis is to be made as described under the differential diagnosis of spinal and cerebral affections.

NOTES OF A SUCCESSFUL CASE OF LITHOTOMY UPON A MAN AGED 77.

By J. D. DIXON, M.B.

MR. PRESIDENT AND GENTLEMEN,

I bring this case of lithotomy before the notice of the Society on account of the patient's great age and the complications which had to be contended against.

E. L., aged 77, complained of all the symptoms of stone in the bladder for a year. I sounded him in the beginning of July last, and found a stone. He at first refused to be operated upon, but finally his distress became so great that he determined to have the stone removed.

It was not an encouraging case; in addition to his great age, his lungs were extensively emphysematous; his arteries were atheromatous, and the arcus senilis was well marked. On examination by the rectum, I found a very large prostate. His urine was full of pus and stinking. The patient was worn out with pain, and had become accustomed to take large quantities of laudanum.

On July 27th, with the kind assistance of Dr. Arnison and Mr. T. A. Dodd, I removed the stone by lateral lithotomy. The bladder was deep in the pelvis, and the stone was adherent to the posterior wall of it. The smell from the stone and from the interior of the bladder was most foul. Before putting in the tube, I washed the bladder out with 1-60 carbolic acid. This is the stone, Mr. President; it appears to be composed of phosphate of lime.

There was considerable hæmorrhage a few hours after the operation, which was uncontrollable by plugging, but was checked by washing out the bladder with weak carbolised water. The patient was delirious, extremities cold, temperature 95°, and his pulse was intermitting every third beat. He was given brandy and beef tea freely by mouth and by rectum, and by the next morning he had recovered from the shock.

During recovery, large pieces of slough came away from the wound, which healed very slowly, leaving a fistula leading to the bladder; this was closed by fastening in a catheter for six days. The patient is now quite well.



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